

CLAIMS

We claim:

- 5 1. A fastener feeding device comprising:
 a housing;
 a glider assembly slidably supported by the housing;
 a depth control nose movably coupled to the glider assembly; and
 a locking member pivotally coupled to one of the glider assembly
10 and the depth control nose, the locking member being pivotally movable to
 engage the other of the glider assembly and the depth control nose to substantially
 fix a relative position between the glider assembly and the depth control nose.
- 15 2. The device of Claim 1 wherein the housing is connectable to and
 supportable by a power tool.
3. The device of Claim 1 wherein the locking member is pivotally
 coupled to the glider assembly and is engageable with the depth control nose.
- 20 4. The device of Claim 1 wherein the locking member is pivotable
 between a locking position, in which the locking member engages the other of the
 glider assembly and the depth control nose to substantially fix a relative position
 between the glider assembly and the depth control nose, and an unlocking
25 position, in which the depth control nose is movable relative to the slider
 assembly.
5. The device of Claim 1 wherein the other of the glider assembly and
 the depth control nose includes first teeth, and wherein the locking member
 includes locking member teeth engageable with the first teeth to substantially fix a
30 relative position between the glider assembly and the depth control nose.
6. The device of Claim 1 and further comprising an indicator
 indicating the relative position between the glider assembly and the depth control
 nose.

5 7. The device of Claim 1 wherein the depth control nose has a
workpiece end engageable with a workpiece, engagement with the workpiece
causing sliding movement of the depth control nose and the slider assembly
relative to the housing.

 8. The device of Claim 7 and further comprising an advancing
assembly connected to the slider assembly and operable to advance a fastener to a
driving position.

10 9. The device of Claim 8 wherein sliding movement of the slider
assembly relative to the housing causes the advancing assembly to advance a
fastener to the driving position.

15 10. The device of Claim 8 wherein the housing defines a track, and
wherein the advancing assembly includes
 an arm pivotally connected to the slider assembly,
 a wheel rotatably supported by the arm and engageable with a strip
of collated fasteners, and
20 a follower supported by the arm and movable in the track.

 11. The device of Claim 1 and further comprising:
 a depth stop coupled to the housing for movement along an axis
and limiting a driving depth to which a fastener is drivable into a surface of a
25 workpiece; and
 an adjusting ring at least partially surrounding the housing and
operatively engaging the depth stop, the depth stop being axially movable relative
to the housing in response to rotation of the adjusting ring to adjust the driving
depth.

30 12. The device of Claim 11 wherein the depth stop is engageable by
the slider assembly to limit sliding movement of the slider assembly relative to the
housing.

13. A fastener feeding device for a power tool, the power tool including a support projection defining a tool axis and a groove extending at least partially around the circumference of the support projection, said device comprising:

5 a mounting sleeve selectively connectable with the support projection;

a clamping block supported by the mounting sleeve and radially movable relative to the tool axis, the clamping block being engageable with the groove, and

10 an actuator operable to move the clamping block into engagement with the groove, the actuator being engageable by a hand of an operator, the actuator being movable between a locked condition, in which the clamping block is at least partially disposed within the groove to resist axial movement of the mounting sleeve relative to the support projection, and an unlocked condition, in

15 which the clamping block is allowed to move from the groove such that the mounting sleeve is removable from the support projection.

14. The device of Claim 13 and further comprising an extension connectable between the support projection and the mounting sleeve and operable

20 to support the device on the power tool, the extension including

an extension sleeve connectable with the support projection,

a tool-less locking assembly operable to selectively lock the extension to the power tool, and

an extension projection connectable with mounting sleeve and

25 defining an extension groove, the clamping block being engageable with the extension groove to resist axial movement of the mounting sleeve relative to the extension projection.

15. The device of Claim 14 wherein the locking assembly includes an extension clamping block supported by the extension sleeve and radially movable relative to the tool axis, the extension clamping block being engageable with the groove of the support projection, and
5 an extension actuator operable to move the extension clamping block into engagement with the groove of the support projection, the extension actuator being engageable by a hand of an operator, the extension actuator being movable between a locked condition, in which the extension clamping block is at least partially disposed within the groove to resist axial movement of the
10 extension sleeve relative to the support projection, and an unlocked condition, in which the extension clamping block movable from the groove such that the extension sleeve is removable from the support projection.

16. The device of Claim 13 and further comprising a locking collar at
15 least partially surrounding the mounting sleeve and rotatable about the tool axis between a locked position, in which the locking collar urges the clamping block into engagement with groove, and an unlocked position, in which the clamping block is allowed to move out of engagement with the groove, the actuator being operable to move the locking collar between the locked position and the unlocked
20 position.

17. The device of Claim 16 wherein the locking collar has a radially inwardly facing cam surface engaging the clamping block, the clamping block moving in a radially inward direction in response to rotation of the locking collar
25 in a first direction.

18. The device of Claim 13 wherein the power tool includes an abutting face adjacent the support projection, and wherein the mounting sleeve has an end surface engageable with the abutting surface.

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19. The device of Claim 18 wherein one of the abutting face and the end surface includes a projection, and wherein the other of the abutting face and the end surface defines a recess for receiving the projection.

20. The device of Claim 19 wherein engagement of the projection and the recess restricts rotational movement of the mounting sleeve relative to the support projection.

5 21. The device of Claim 20 wherein engagement of the projection and the recess substantially prevents rotational movement of the mounting sleeve relative to the support projection.

10 22. The device of Claim 19 wherein rotation of the mounting sleeve relative to the support projection and engagement of the projection and the recess causes axial movement of the mounting sleeve relative to the support projection.

15 23. The device of Claim 22 wherein, in the unlocked condition, axial movement of the mounting sleeve relative to the support projection causes radially outward movement of the clamping block relative to the support projection.

20 24. The device of Claim 13 wherein the groove includes a circumferential groove extending around the support projection, wherein said device further comprises a second clamping block supported by the mounting sleeve circumferentially spaced from the first-mentioned clamping block, the second clamping block being radially movable relative to the tool axis and being engageable with the groove, and wherein the actuator is operable to move the second clamping block into engagement with the groove.

25. A fastener feeding device for a power tool, the power tool including a support projection defining a tool axis and a groove extending at least partially around the circumference of the support projection, said device comprising:

- 5 a feed device including
 - a device housing, and
 - a feed assembly operable to feed a fastener to a driving position; and
- 10 an extension connectable between the support projection and the device housing and operable to support the feed device on the power tool, the extension including
 - an extension sleeve connectable with the support projection,
 - a tool-less locking assembly operable to selectively lock the extension to the power tool, and
 - 15 an extension support connectable with and operable to support the device housing.

26. The device of Claim 25 wherein the locking assembly includes an extension clamping block supported by the extension sleeve and

20 radially movable relative to the tool axis, the extension clamping block being engageable with the groove of the support projection, and

an extension actuator operable to move the extension clamping block into engagement with the groove of the support projection, the extension actuator being engageable by a hand of an operator, the extension actuator being

25 movable between a locked condition, in which the extension clamping block is at least partially disposed within the groove to resist axial movement of the extension sleeve relative to the support projection, and an unlocked condition, in which the extension clamping block movable from the groove such that the extension sleeve is removable from the support projection.

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27. The device of Claim 26 wherein the extension further includes an extension locking collar at least partially surrounding the extension sleeve and rotatable about the tool axis between a locked position, in which the extension locking collar urges the extension clamping block into engagement with groove, and an unlocked position, in which the extension movable out of engagement with the groove, the extension actuator being operable to move the extension locking collar between the locked position and the unlocked position.

28. The device of Claim 27 wherein the extension locking collar has a radially inwardly facing cam surface engaging the extension clamping block, the clamping block moving in a radially inward direction in response to rotation of the extension locking collar in a first direction.

29. The device of Claim 25 wherein the power tool includes an abutting face adjacent the support projection, and wherein the extension sleeve has an end surface engageable with the abutting surface.

30. The device of Claim 29 wherein one of the abutting face and the end surface includes a projection, and wherein the other of the abutting face and the end surface defines a recess for receiving the projection.

31. The device of Claim 30 wherein engagement of the projection and the recess restricts rotational movement of the extension sleeve relative to the support projection.

32. The device of Claim 31 wherein engagement of the projection and the recess substantially prevents rotational movement of the extension sleeve relative to the support projection.

33. The device of Claim 30 wherein rotation of the mounting sleeve relative to the support projection and engagement of the projection and the recess causes axial movement of the extension sleeve relative to the support projection.

34. The device of Claim 33 wherein the locking assembly includes an extension clamping block supported by the extension sleeve and radially movable relative to the tool axis, the extension clamping block being engageable with the groove of the support projection, the extension clamping block having a locked condition, in which the extension clamping block is at least partially disposed within the groove to resist axial movement of the extension sleeve relative to the support projection, and an unlocked condition, in which the extension clamping block is movable from the groove such that the extension sleeve is removable from the support projection, and wherein, in the unlocked condition, axial movement of the extension sleeve relative to the support projection causes radially outward movement of the extension clamping block relative to the support projection.

35. The device of Claim 25 wherein the extension support defines an extension groove extending at least partially around the circumference of the extension support, and wherein the feed device includes
a mounting sleeve selectively connectable with the extension support,
a feed device clamping block supported by the mounting sleeve and radially movable, the feed device clamping block being engageable with the extension groove to resist axial movement of the mounting sleeve relative to the extension support.

36. The device of Claim 35 wherein, when the extension is disconnected from the support projection, the mounting sleeve is selectively connectable with the support projection to support the feed device on the support projection.

37. The device of Claim 36 wherein, when the feed device is supported on the support projection, the feed device clamping block is engageable with the groove to resist axial movement of the mounting sleeve relative to the support projection.

38. The device of Claim 25 wherein the extension includes an extension abutting face adjacent the extension support, and wherein the device housing has a housing end surface engageable with the extension abutting surface.

5 39. The device of Claim 38 wherein one of the extension abutting face and the housing end surface includes a projection, and wherein the other of the extension abutting face and the housing end surface defines a recess for receiving the projection.

10 40. The device of Claim 39 wherein engagement of the projection and the recess restricts rotational movement of the device housing relative to the extension support.

15 41. The device of Claim 40 wherein engagement of the projection and the recess substantially prevents rotational movement of the device housing relative to the extension support.

20 42. The device of Claim 39 wherein rotation of the device housing relative to the extension support and engagement of the projection and the recess causes axial movement of the device housing relative to the extension support.

25 43. The device of Claim 42 wherein the extension support defines an extension groove extending at least partially around the circumference of the extension support, wherein the feed device includes a device clamping block supported by the device housing and radially movable, the device clamping block being engageable with the extension groove, the device clamping block having a locked condition, in which the device clamping block is at least partially disposed within the extension groove to resist axial movement of the device housing relative to the extension support, and an unlocked condition, in which the device clamping block is movable from the extension groove such that the device housing is removable from the extension support, and wherein, in the unlocked condition, axial movement of the device housing relative to the extension support causes radially outward movement of the device clamping block relative to the extension support.

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44. A fastener feeding device for a power tool, said device comprising:
a housing;
a glider assembly slidably supported by the housing;
a depth stop coupled to the housing for movement along an axis
and limiting a driving depth to which a fastener is drivable into a surface of a
workpiece, the depth stop being engageable with the slider assembly to limit
sliding movement of the slider assembly relative to the housing; and
an adjusting ring at least partially surrounding the housing and
operatively engaging the depth stop, the depth stop being axially movable relative
to the housing in response to rotation of the adjusting ring to adjust the driving
depth.

45. The device of Claim 44 and further comprising:
a depth control nose movably coupled to the glider assembly; and
a locking member pivotally coupled to one of the glider assembly
and the depth control nose, the locking member being pivotally movable to
engage the other of the glider assembly and the depth control nose to substantially
fix a relative position between the glider assembly and the depth control nose.

46. The device of Claim 44 wherein the depth stop has an external
threaded portion, and wherein the adjusting ring has an inner surface having an
internal threaded portion engaging the external threaded portion.

47. The device of Claim 44, wherein the adjusting ring defines
multiple grooves spaced along an outer surface of the adjusting ring, and wherein
said device further comprises a detent spring supported by the housing and
engageable with the grooves to provide predetermined rotational positions for the
adjusting ring corresponding to predetermined axial positions for the depth stop.

48. A collated fastener feeding device comprising:
a device housing;
a feed device supported by the device housing and operable to
position a fastener in a driving position, the feed device being engageable with a
5 strip of collated fasteners; and
a strip tensioner assembly including
a strip tensioner wheel rotatably supported by the device
housing,
a tensioner plate movable in response to rotation of the
10 wheel and having a projection extending from the tensioner plate, and
at least one cam surface engaging the projection on the
tensioner plate, the tensioner plate being movably engageable with the
strip of collated fasteners to adjust the tension of the strip.
49. The device of Claim 48 wherein the device is operable with a first
15 strip of first collated fasteners and a second strip of second collated fasteners, one
of the first strip and the second strip being supported by the device housing, and
wherein the strip tensioner assembly is operable to adjust the tension of the one of
the first strip and the second strip.
50. The device of Claim 48 wherein engagement of the cam surface
20 and the projection moves the tensioner plate relative to the strip of collated
fasteners in response to rotation of the tensioner wheel to adjust frictional
engagement between the tensioner plate and the strip.
51. The device of Claim 48 wherein the housing defines a slot having a
25 support surface fixed with respect to the housing, and wherein the tensioner plate
is movable to adjust a gap between the tensioner plate and the support surface.

52. A collated fastener feeding device comprising:
a device housing defining a track;
a slider assembly slidably supported by the device housing;
a feed device supported by the device housing and operable to
5 position a fastener in a driving position, the feed device being engageable with a
strip of collated fasteners, the feed device including
an arm having a first end pivotally connected to the slider
assembly and a second end,
an engaging element rotatably supported adjacent the
10 second end and engageable with a strip of collated fasteners, and
a follower supported by the arm between the first end and
the second end, the follower being movable in the track;
wherein sliding movement of the slider assembly relative to the
device housing causes movement of the follower in the track, and wherein
15 movement of the follower in the track causes the engagement element to position
a fastener in the driving position.

53. The device of Claim 52 wherein the engaging element includes a
wheel supported for rotation by the arm.

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54. The device of Claim 53 wherein the wheel is substantially rotatably
fixed relative to the arm as the fastener is moved to the driving position.

55. The device of Claim 54 wherein the wheel is rotatable relative to
25 the arm during movement from the driving position to an engaging position, in
which the wheel engages the strip to move a second fastener to the driving
position.

56. The device of Claim 53 wherein the engaging element includes an
30 axle rotatably supporting the wheel on the arm, and wherein the follower is
supported by the axle.

57. The device of Claim 56 wherein the follower is co-axial with the
axle.

58. The device of Claim 52 wherein the follower is supported intermediate the first end and the second end.